

## DESCRIPTIONS OF TWO NEW PILOLEBERTIA SPECIES (ACARI, HYDRACHNELLAE, LEBERTIIDAE) FROM CHINA

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**Abstract** Two species are described new to science, *Lebertia* (*Pilolebertia*) *pseudociliata* and *L.* (*P.*) *pectinata*, from Guizhou, China. The location patterns of glandularia and ocularia in the new species are described and illustrated.

**Key words** Lebertiidae, *Lebertia*, *Pilolebertia*, new species, China.

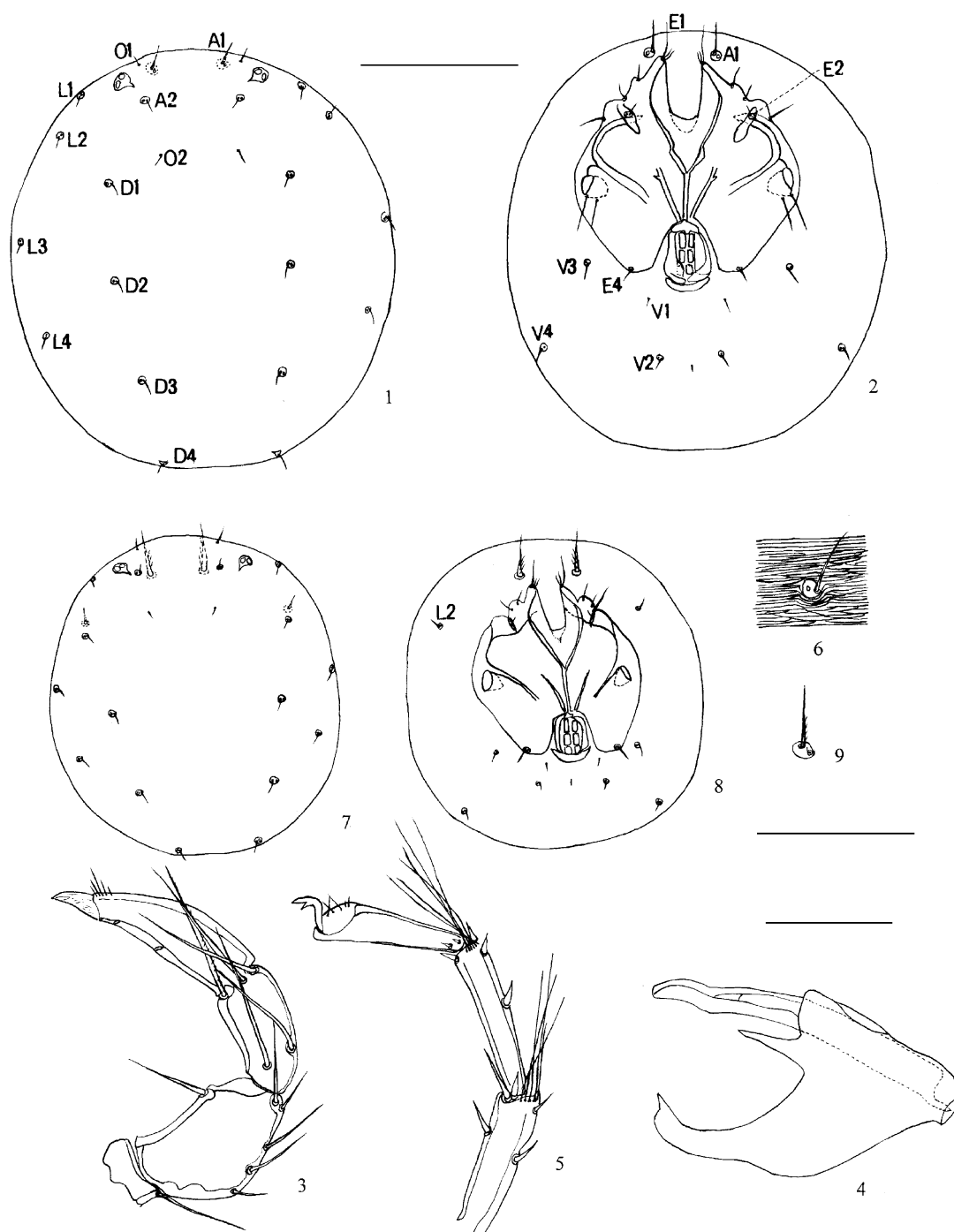
There are more than known 350 species of Lebertiidae reported worldwide up to now, while only 4 species, belonging to the subgenus *Pilolebertia* in *Lebertia*, recorded from China (Jin, 1994; Jin, 1997). The genus *Lebertia* consists of six subgenera in the present subgenera classification, of which the subgenus *Pilolebertia* was reported in China (Jin, 1994; Jin, 1997). This paper adds another two new species with descriptions from Maolan Reserve (25°09'-25°20' N, 107°52'-108°45' E), Guizhou Province, China. The distributions of glandularia on the mite soma are illustrated in detail. Type specimens of the new species are deposited in Institute of Entomology, Guizhou University. Measurements in the text are given in  $\mu\text{m}$ .

The abbreviations and terms used in text follow Jin (1997): A1, A2: antennal glandularia 1 and 2. D1-D4: dorsoglandularia 1-4. E1-E4: epimeroglandularia 1-4. L1-L4: lateroglandularia 1-4. O1, O2: ocularia 1 and 2. V1-V4: venteroglandularia 1-4. Ep - Ep : epimera - . AEG: anterior epimeral group (Ep + Ep ). Ap: anal pore. Gf: entire genital field, width measured by outer margin of both sides. Ib: infracapitulum bay (capitular bay). PEG: posterior epimeral group (Ep + Ep ). MD PEG: median distance of post-median angle of Ep . ML AEG: median length from posterior limit of Ib to posterior end of Ep . ML Ep : median length from posterior limit of Ib to posteriorend of Ep . Ib-Ap: distance between posterior limit of Ib and edge of Ap. Ib-Gf: distance from Ib to anterior edge of Gf. Ib-PEG: distance between Ib to the median angle of PEG. -L-3-6, etc: first leg 's segment 3-6, etc. P<sup>-</sup> -P<sup>-</sup>: palpal segment 1-5.

### 1 *Lebertia* (*Pilolebertia*) *pseudociliata* sp. nov. (Figs. 1-9)

**Female.** Body round in outline, 1 349 long and 1 321 wide. Integument with fine lined. The distance between O1 is longer than that between A1. A1 setae short and smooth. Single epimeral group, 679 in length and 721 in width; ML EpI 106. E1 with two seta-like cuticle extensions. Ib U-shaped, depth 179, width 106. Suture lines between Ep and Ep reach not to the inner extremity of the plate, to 3/4 of the plate. Ep lateral sides linear. V3 is far away from Ep . Gf length 241, width 139, acetabula three pairs, the first and second pairs elongated elliptical, the third smallest and nearly rounded. Infracapitulum length 251, dorsal apodeme short and sharp, ventral apodeme terminal curved upwards with a short sharp tip. Chelicera length 264. P<sup>-</sup> with a dorsal seta reaching to about 1/2 length of P<sup>-</sup>; P<sup>-</sup> with 5 dorsal setae, of them the first short and the others long, and a ventral seta at the top. P<sup>-</sup> with 5 long setae, of which 2 distal and 3 terminal, and one of the ventrals one pectinated. P<sup>-</sup> with 5 short setae at the dorsal top and 2 ventral seta pores, one about at 1/2 and the other near to the tip of P<sup>-</sup>. Dorsal lengths of the palp segments: P<sup>-</sup>, 28; P<sup>-</sup>: 120; P<sup>-</sup>, 105; P<sup>-</sup>, 140; P<sup>-</sup>, 30. The dorsal lengths of L<sup>-</sup> terminal segments: -L-4, 144; -L-5, 157; -L-6, 143; dorsal lengths of L<sup>-</sup> segments: -L-4, 264; -L-5, 274; -L-6, 247. Swimming setae on legs: -L-4, 0; -L-5, 4; -L-4, 4; -L-5, 5; -L-4, 5; -L-5, 6.

**Male.** Body length 991, width 939. A1 setae serrated. Single epimeral group, 589 long and 527 wide;



Figs. 1-9. *Lebertia* (*Pilolebertia*) *pseudociliata* sp. nov. 1. Dorsum . 2. Venter . 3. Palp . 4. Infracapitulum and chelicera . 5. -L-4, 5 and 6 . 6. Integument . 7. Dorsum . 8. Venter . 9. A1 seta . Scale bars: 1-2, 7-8 = 500  $\mu$ m; 5, 9 = 250  $\mu$ m; 3-4, 6 = 100  $\mu$ m.

Ib depth 149, width 74; ML EpI 104; Gf length 163, width 112. Infracapitulum length 201. Chelicera length 211. Dorsal lengths of palpal segments: P<sup>-</sup>, 23; P<sup>-</sup>, 98; P<sup>-</sup>, 99; P<sup>-</sup>, 111; P<sup>-</sup>, 22; P<sup>-</sup>, 30. Dorsal lengths of L<sup>-</sup> terminal segments: -L-4, 102; -L-5, 121; -L-6, 104. Dorsal lengths of terminal L<sup>-</sup> segments: -L-4, 221; -L-5, 239; -L-6, 223. Swimming setae on legs same to female.

Holotype , slide 1998-X-221, Maolan (25°09' - 25°20' N, 107°52' - 108°45' E), Libo, Guizhou, 22 Oct. 1998. Paratypes: 1 , 1 , slides 1998-X-222 and 1998-X-223, same date and location as for holotype, by GUO Jian-Jun.

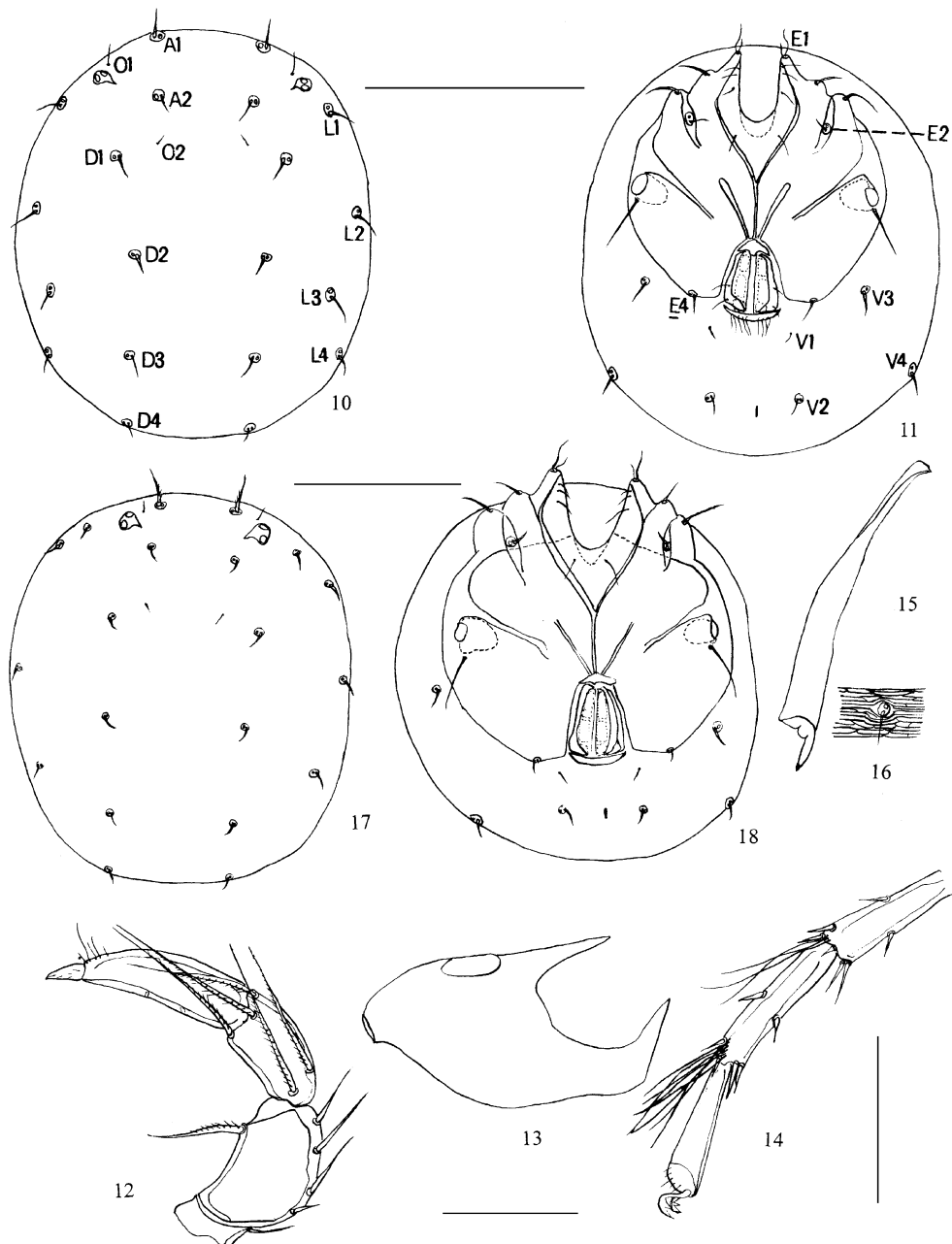
Remarks. This new species is similar to *L.* (*P.*) *ciliata* Jin, 1997 with a ventral terminal seta pectinately. The present new species is distinguished by fine lined integument, E1 with two cuticle extensions, long

P<sup>-</sup> ventral setae and Ep lateral sides linear. The new species is named after L. (P.) ciliata Jin, 1997.

**2** *Lebertia* (*Pilolebertia*) *pectinata* sp. nov. (Figs. 10-18)

Male. Body round in outline, 949 long, 818 wide. Integument thin, light yellow, but in aged specimens, rather thick and blackish yellow, and furnished with irregularly fine lined. The distance between O1 is much longer than it between A1. A1 setae short and smooth. Single epimeral group, 571 in length and 597

in width. ML Ep 164. Ib-Gf 246, Ib-Ap 650. Suture lines between Ep and Ep reach not to the inner extremity but to 3/4 of the plate. Ep widest, with gently rounded sides. El long, smooth and with a seta-like cuticle extension. Gf length 191, width 126, acetabula three pairs, the first and second pairs elongated elliptical, the third smallest with shortened rectangular outline. Ib U-shaped, depth 151, width 89. Infracapitulum length 213. Chelicera length 244. Dorsal lengths of the palp segments: P<sup>-</sup>, 19; P<sup>-</sup>: 98; P<sup>-</sup>, 92; P<sup>-</sup>, 126; P-V, 26; P<sup>-</sup> with a dorsal



Figs. 10-18. *Lebertia* (*Pilolebertia*) *pectinata* sp. nov. 10. Dorsum . 11. Venter . 12. Palp . 13. Infracapitulum . 14. -L-4, 5 and 6 . 15. Chelicera . 16. Integument . 17. Dorsum . 18. Venter . Scale bars: 10-11, 17-18 = 500  $\mu$ m; 12-13, 15-16 = 100  $\mu$ m; 14 = 250  $\mu$ m.

seta reaching to 1/3 length of  $P_1$ ;  $P_1$  with 5 dorsal setae, of which the first one short and the others four much longer, and a tip ventral seta carrying fibrous extensions on one side and almost reaching to the top of  $P_1$ .  $P_2$  with 5 long setae pectinated, of which 2 base distally and 3 terminally.  $P_3$  with 5 short setae at the dorsal tip and 2 ventral seta pores, of the later one at 1/3 and the other at the 2/3 of  $P_3$ . The dorsal lengths of  $L_1$  terminal segments:  $-L_4$ , 115;  $-L_5$ , 131;  $-L_6$ , 113; dorsal lengths of  $L_2$  segments:  $-L_4$ , 225;  $-L_5$ , 246;  $-L_6$ , 223. Swimming setae on legs:  $-L_4$ , 0;  $-L_5$ , 5;  $-L_4$ , 2;  $-L_5$ , 5;  $-L_4$ , 3;  $-L_5$ , 8.

Female. Body length 1002, width 918. All setae serrated. Distributions of glandularia same to male. Single epimeral group, 741 in length and 749 in width; Ib depth 194, width 112; ML Ep 174; Ib-Gf 319, Ib-AP 661; Gf length 224, width 121. Infracapitulum length 237. Chelicera length 269. Acetabula three pairs if present. Palp similar to male, dorsal lengths of palpal segments:  $P_1$ , 28;  $P_2$ , 112;  $P_3$ , 101;  $P_4$ , 129;  $P_5$ , 31. Dorsal lengths of  $L_1$  terminal segments:  $-L_4$ , 131;  $-L_5$ , 149;  $-L_6$ , 121. Dorsal lengths of terminal  $L_2$  segments:  $-L_4$ , 241;  $-L_5$ , 294;  $-L_6$ , 243. Swimming setae on legs same to male.

Holotype, slide 1998-X-231, from a stream,

Maolan (25°09'-25°20' N, 107°52'-108°45' E), Guizhou, 23 Oct. 1998. Paratypes: 1, 1, slides 1998-X-232 and 1998-X-233, same date and location as for holotype; 1, slide 1999-XF-271, from Luodian, Guizhou, by GUO Jian-Jun.

Remarks. This new species is similar to the species *L. (P.) porosa* Thor, 1900. But it can be separated from the latter by pectinated ventral seta of  $P_2$  and lined skin. Its name is just named after the character of pectinated ventral seta of  $P_2$ .

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## REFERENCES

- Cook, D. R. 1967. Water mites from India. *Memoirs of the American Entomological Institute*, 9: 1-411.
- Cook, D. R. 1974. Water mite genera and subgenera. *Memoirs of the American Entomological Institute*, 21: 1-860.
- Enami, E. 1940. Water mites from Izu i). *Rheophilous Water-mites from River Inozawa*. *Scientific Reports of Tohoku Imperial University, Biology*, 15: 203-259.
- Imamura, T. 1954. Studies on Water-mites from Hokkaido. *Journal of Hokkaido Gakugei University, Section B, Supplement*. 1: 1-148.
- Jin, D-C 1994. Descriptions of two new species of lebertia from China (Acari:Lebertiidae). *Acta Zootaxonomica Sinica*, 19 (1): 120-124. [动物分类学报]
- Jin, D-C 1997. Two new water mites of the genus Lebertia (Acari: Lebertioidea) from China. *Entomologia Sinica*, 4 (1): 30-34.

## 中国多毛腺水螨亚属两新种记述 (蜱螨亚纲, 水螨群, 腺水螨科)

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**摘要** 记述了中国腺水螨科 Lebertiidae 腺水螨属 *Lebertia* 腺水螨亚属 *Pilolebertia* 两新种拟刷毛腺水螨 *Lebertia (Pilolebertia) pseudociliata* sp. nov. 和蓖齿毛腺水螨 *Lebertia (Pilolebertia) pectinata* sp. nov.。前者体壁具细致刻纹, EI 具 2

毛状表皮突,  $P_2$  腹毛长以及  $Ep$  侧缘弧形等特征将之与其他种明显区分开; 后者体壁具细致刻纹和具缘毛的  $P_2$  腹毛可以将之与其他种类明显区分。文中对其腺毛和眼毛的体位特征做了详细描述。

**关键词** 腺水螨科, 腺水螨属, 多毛腺水螨亚属, 新种, 中国.  
**中图分类号** Q959.226